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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/707,185	11/25/2003	Dennis LUNDSTROM	07589.0149.NPUS01	1184
28694	7590	09/15/2006	EXAMINER	
NOVAK DRUCE & QUIGG, LLP 1300 EYE STREET NW 400 EAST TOWER WASHINGTON, DC 20005			EDMONDSON, LYNNE RENEE	
			ART UNIT	PAPER NUMBER
			1725	

DATE MAILED: 09/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/707,185

Applicant(s)

LUNDSTROM ET AL

Examiner

Lynne Edmondson

Art Unit

1725

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 1/5/06.
2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-3, 6-10, 12, 13 and 15-19 is/are rejected.
7) ☒ Claim(s) 4, 5, 11 and 14 is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 25 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 3, 6, 7, 12, 15, 16 and 19 are rejected under 35 U.S.C. 102(e) as being anticipated by Stol et al. (USPN 6769595 B2).

Stol teaches a method of tying components of an alloy with a rivet made of a similar alloy (col 2 lines 5-61) said alloys comprising Ti or Al (col 2 lines 51-61) and intermetallic alloys (col 9 lines 7-30). It is noted that the method is the same regardless of the alloy used. The rivet is placed in a pre-drilled hole and subjected to heat and pressure. Pre-heating is optional (col 7 lines 38-54 and col 8 lines 1-48). A layer (clad) is arranged between components (col 8 lines 1-10). The article which is an aircraft component comprises the alloys riveted together. It is noted that a similar article can be made by a variety of means including but not limited to welding, brazing and friction plug joining.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-3, 6-10, 13, 15, 16 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshida (JPN 10-205510 A) in view of Coletta et al. (USPN 6460750 B1).

Yoshida teaches a method of tying components of an alloy with a rivet made of a similar alloy (col 2 lines 5-61) said alloys comprising Al (paragraphs 6 and 13). It is noted that the method is the same regardless of the alloy used. The rivet is placed in a pre-drilled hole (paragraphs 2 and 12) and subjected to heat and pressure (paragraph 5) via a combined pressure loading and heating tool (gun). The rivet is pressure loaded between electrodes of the tool. The fastener is heated by electrical current (abstract and paragraphs 10-14). Pre-heating is optional (col 7 lines 38-54 and col 8 lines 1-48). A layer (clad) is arranged between components (col 8 lines 1-10). The article comprises the alloys riveted together. It is noted that a similar article can be made by a variety of means including but not limited to welding, brazing and friction plug joining. However, the rivet alloy is not further disclosed. Neither is an aircraft component disclosed.

Coletta teaches a rivet comprising two or more metals (col 8 lines 52-67) for tying Al metals wherein the component is used in aircraft (col 9 lines 14-30).

It would have been obvious to one of ordinary skill in the art at the time of the invention to employ rivets comprising two or more metals which are conventionally used in aircraft components to effect a full metallurgical bond between the parts with minimal deformation (Yoshida, paragraph 3).

5. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Stol et al. (USPN 6769595 B2) in view of Rosman (USPN 3747466).

Stol teaches a method of tying components of an alloy with a rivet made of a similar alloy (col 2 lines 5-61) said alloys comprising Ti or Al (col 2 lines 51-61) and intermetallic alloys (col 9 lines 7-30). It is noted that the method is the same regardless of the alloy used. The rivet is placed in a pre-drilled hole and subjected to heat and pressure. Pre-heating is optional (col 7 lines 38-54 and col 8 lines 1-48). A layer (clad) is arranged between components (col 8 lines 1-10). The article which is an aircraft component comprises the alloys riveted together. It is noted that a similar article can be made by a variety of means including but not limited to welding, brazing and friction plug joining. However, the alloys are not further disclosed.

Rosman teaches a rivet for tying metals wherein the rivet comprises TiAl (col 6 lines 1-3).

It would have been obvious to one of ordinary skill in the art at the time of the invention to employ known Ti and Al rivet alloys such as TiAl to effect a full metallurgical bond between the parts with minimal deformation (Stol, col 2 line 62 – col 3 line 3).

Response to Arguments

6. Applicant's arguments with respect to claims 2, 8-10 and 13 have been considered but are moot in view of the new ground(s) of rejection.

7. Regarding applicant's argument that Stol does not teach an intermetallic alloy, it is noted that according to the Merriam-Webster online dictionary an intermetallic is 'composed of two or more metals or of a metal and non-metal'. Stol teaches a material composed of two or more metals in the alloys in column 2 lines 38-61 and column 9 lines 7-21. Stol also teaches that while a predrilled hole is not required a hole may be beneficial (column 2 lines 21-27 and column 9 lines 25-33). The friction stir welding process wherein a fastener pierces a workpiece (col 2 lines 51-61) does not melt materials but rather produces a localized softening or plasticizing effect (column 4 lines 32-41) with minimal deformation (column 2 line 62- column 3 line 3 and column). Line 4 of instant claim 1 teaches that some deformation occurs during the heating process. The process is used to reduce or eliminate cracking (column 7 lines 7-24 and column 8 lines 58-64).

While it is clear that some particular intermetallics are brittle, it is not clear that all intermetallics are inherently always brittle.

Therefore the 102 rejection of claims 1, 3, 6, 7, 12, 15, 16 and 19 as anticipated by Stol stands.

8. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., a special type of TiAl alloy) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

9. The claim states a TiAl alloy. As discussed above an intermetallic material has been defined as two or more metals. There is no claim limitation disclosing a particular TiAl alloy.

10. Therefore the 103 rejection of claim 18 as obvious over Stol in view of Rosman stands.

Allowable Subject Matter

11. Claims 4, 5, 11 and 14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Litwinski (US 2003/0218052 A2) and Regle et al. (USPN 2957237).

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13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lynne Edmondson whose telephone number is (571) 272-1172. The examiner can normally be reached on Monday through Thursday from 6:30 a.m. to 5 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Lynne Edmondson
Primary Examiner
Art Unit 1725



LRE